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Product Information

Monoclonal Anti-PMP22
Clone CF1
produced in mouse, purified immunoglobulin

Catalog Number **P0081**

Product Description

Monoclonal Anti-PMP22 (mouse IgG1 isotype) is derived from the hybridoma CF1 produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with a peptide corresponding to the second extracellular domain of human PMP22 (amino acids 120-133)(Gene ID: 5376). The isotype is determined using a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents, Catalog Number ISO2.

Monoclonal Anti-PMP22 recognizes human and monkey PMP22.[1] The antibody may be used in various immunochemical techniques including ELISA,[1] immunoblotting[1] (~ 22 kDa), immunohistochemistry[1] and immunocytochemistry.

Myelin is a highly specialized extension of the plasma membrane of Schwann cells in the peripheral nervous system (PNS) and of oligodendrocytes in the central nervous system (CNS). The regulation of myelin protein expression is under exquisite control due to the highly specialized function of myelin in the nervous system. Furthermore, it shows a similar pattern of regulation both during development and during nerve regeneration.[2,4] The glycoprotein **p**eripheral **m**yelin **p**rotein 22 (PMP22), also known as growth arrest specific 3 (*gas3*), has proposed roles in peripheral nerve myelin formation, cell-cell interactions and cell proliferation.[3] PMP22 expression is highest in myelin-forming Schwann cells; however, its mRNA can be detected in a variety of developing and mature non-neural tissues including intestine and lung epithelia, as well as the choroids plexus.[4] Abnormalities in the PMP22 gene cause neuropathies both in mouse and in human. PMP22 gene duplication or point mutation result in the Charcot-Marie-Tooth disease (CMT) type 1A.[5] Furthermore, due to its involvement in growth arrest it has also been implicated in neoplastic transformation of normal tissue to pre-malignant lesions and to cancer of the pancreas, and in osteoblasts.[6,7]

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody concentration: ~ 1.0 mg/mL

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze at −20 °C in working aliquots. Repeated freezing and thawing, or storage in “frost-free” freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

Immunohistochemistry: a working concentration of 2.5-5 μg/mL is recommended using human spinal cord tissue sections.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining optimal working dilutions by titration.

References

1. Gregson, N.A., et al., *J. Peripher. Nerv. Syst.,* **12**, 2-10 (2007).
2. Simons, M., and Trotter, J., *Curr. Opin. Neurobiol.,* **17,** 533-540 (2007).
3. Snipes, G.J., et al., *Ann. N.Y. Acad. Sci.,* **883**, 143-151 (1999).
4. Quarles, R.H., *Cell. Mol. Life Sci.,* **59**, 1851-1871 (2002).
5. Kochański, A., *J. Appl. Genet.,* **47**, 225-260 (2006).

6. Li, J., et al., *J. Histochem. Cytochem.,* **53,** 885-893 (2005).

7. Van Dartel, M., and Hulsebos, T.J.M., *Cancer Gen. Cytogen.,* **152**, 113-118 (2004).

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